

1890 November 1. Exposure 15 minutes. The nucleus is very strongly stellar.

1890 December 9. Exposures 5, 15, and 60 minutes respectively. The nucleus is strongly stellar on each plate.

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*Isaac Roberts' New Observatory on Crowborough Hill, Sussex.*

By Isaac Roberts, F.R.S.

The observatory is placed on the summit of Crowborough Hill, in Sussex, which is one of the highest points in the South of England, and commands the horizon around without material obstruction. The floor of the observatory is 780 feet 7 inches above sea-level. The whole of the buildings are erected on a level platform of concrete, the top of which is about four feet above the ground, which slopes towards the south-east. The buildings are one story in height, and the floors are raised fifteen inches above the platform or terrace, and are on one uniform level throughout. The limit to one story in height permits the telescopes to be brought down to within twenty degrees of the horizon when pointed over the roof of the house. The observatory is placed due south, and is 20 feet square inside, with a transit room opening from it on the west side. Adjoining the observatory on the north side is a physical laboratory and a chemical laboratory, with dark room and photo-enlarging arrangements. These and the observatory are connected with the dwelling-house by a corridor, on one side of which is a mechanic's shop, heating-chamber, and library. At the end of the corridor is the dwelling-house. The dome of the observatory is hemispherical, and constructed with wood ribs, sheeted with wood and covered with copper. The dome has two slits, each 3 feet 8 inches in width, parallel with each other, and 5 feet 8 inches from centre to centre. The shutters of the lower half of each slit slide horizontally round the dome, and the upper halves slide upon and over the top of the dome, so that both slits can be opened full breadth from the horizontal to 18 inches beyond the zenith. By opening both slits the observatory is soon cooled down to the external temperature; but there is one disadvantage in this dual slit plan—it gives the dome a pole, which in some positions of the telescope is a little troublesome.

The latitude of the observatory is N.  $51^{\circ} 3' 7''$ ; longitude, E.  $0^{\text{h}} 0^{\text{m}} 37^{\text{s}}$ .

The site of the observatory was selected after much inquiry and investigation as to probability of the occurrence of numerous clear intervals of sky during the year suitable for the pursuit of stellar photography, and although it is premature to express a decided opinion, I am quite safe in stating that this locality is an improvement upon the former site of my observatory at Maghull.

It may interest some to know that I commenced building the observatory and house in the month of September 1889, and by September 1890 the buildings were finished and occupied, and some ten tons weight of telescopes, apparatus, and books were dismounted, conveyed, and re-erected on Crowborough Hill within twelve months time.

Accompanying is a photograph of the buildings.

The photographic work was continued at Maghull till the month of June 1890, and resumed at Crowborough in the following October.

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*Observations of the Planets Victoria and Sappho and comparison stars made with the Meridian Circle at Dunsink.* By Arthur A. Rambaut, M.A., Assistant Astronomer at Dunsink Observatory.

(Communicated by Sir Robert Ball.)

In accordance with a request of Dr. Gill, the meridian circle and chronograph of the Dunsink Observatory were employed during the summer, autumn, and part of the winter of 1889-90, in observing the minor planets *Victoria* and *Sappho*, as well as the list of comparison stars selected by Dr. Gill for heliometer observations of parallax.

A precisely similar series of observations had been made during the previous year upon the planet *Iris* and comparison stars, the results of which were published in vol. xlix., No. 5, of the *Monthly Notices*.

In passing I should like to take this opportunity to correct a misprint which escaped my notice on p. 313 and subsequent pages of that communication. The date for which the places are computed is there given as 1880.0 throughout the whole list of separate results, instead of 1888.0, as it ought to be. This misprint is, however, the less likely to have misled anybody as the means of these results are correctly given in a collected list at the end of the paper as being for 1888.0.

I regret to say that the observations contained in the present communication are not so complete as might have been wished. Those of the comparison stars for *Victoria* in particular are a mere fragment of what it was proposed to obtain, owing to frequent interruption which occurred in the work; and although the results for the *Sappho* list are more satisfactory, there are still some stars of which I failed to get as many observations as suggested by Dr. Gill.

The places of the stars given below are, as in the case of the *Iris* list, differential, both in right ascension and declination, the clock error and the equator point of the circle being always determined by observations of a few stars selected from the *Berliner Jahrbuch*.

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